

ABSTRACT OF THE DISCLOSURE

5 A knowledge driven composite design optimization process for designing a laminate part includes steps for generating a globally optimized 3-D ply definition for a laminate part, and
modifying the 3-D ply definition to include features of the laminate part, where the generating
and modifying steps are parametrically linked to one another and are performed in the recited
order. Preferably, the generating step includes substeps for determining connectivity between a
plurality of regions defining the laminate part, subsequently generating ramp features detailing
10 interconnection of the regions defining the laminate part, and displaying views and
corresponding tabular data describing the laminate part and illustrating both inter-region
connectivity and the ramp features as specified by a user. A knowledge driven composite design
optimization system and associated computer memory for operating a general purpose computer
as a knowledge driven composite design optimization system are also described.